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FILE COVERS 1997 - 13 Aug 2002 VOL 177 ISS 7  
FILE LAST UPDATED: 12 Aug 2002 (20020812/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

L8	STR
L10	SCR 2026 AND 1006
L11	8068 SEA FILE=REGISTRY SSS FUL L8 AND L10
L12	11409 SEA FILE=CPLUS ABB=ON L12
L13	2317 SEA FILE=CPLUS ABB=ON SOLID SUPPORT#/OBI
L15	6566 SEA FILE=CPLUS ABB=ON MICROARRAY#/OBI OR MICRO(L)ARRAY#/OBI
L16	20 SEA FILE=CPLUS ABB=ON L13(L)L15
L20	17 SEA FILE=CPLUS ABB=ON L13(L)L17
L23	4 SEA FILE=CPLUS ABB=ON (L19 AND L17) OR (L20 AND L15)

L1	11409
L2	11409 SEA FILE=CPLUS ABB=ON L12
L3	11409 SEA FILE=CPLUS ABB=ON (L12 AND L17)
L4	11409 SEA FILE=CPLUS ABB=ON (L12 AND L17) OR L15
L5	11409 SEA FILE=CPLUS ABB=ON (L12 AND L17) OR L15
L6	11409 SEA FILE=CPLUS ABB=ON (L12 AND L17) OR L15
L7	11409 SEA FILE=CPLUS ABB=ON (L12 AND L17) OR L15
L8	11409 SEA FILE=CPLUS ABB=ON (L12 AND L17) OR L15
L9	11409 SEA FILE=CPLUS ABB=ON (L12 AND L17) OR L15
L10	11409 SEA FILE=CPLUS ABB=ON (L12 AND L17) OR L15
L11	11409 SEA FILE=CPLUS ABB=ON (L12 AND L17) OR L15
L12	11409 SEA FILE=CPLUS ABB=ON (L12 AND L17) OR L15
L13	11409 SEA FILE=CPLUS ABB=ON (L12 AND L17) OR L15
L14	11409 SEA FILE=CPLUS ABB=ON (L12 AND L17) OR L15

*Biological Materials*

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L8 STE.  
 L10 SCR 2026 AND 1006  
 L12 8068 SEA FILE=REGISTRY SSS FUL L8 AND L10  
 L13 21405 SEA FILE=CAPLUS ABB=ON L12  
 L25 737 SEA FILE=CAPLUS ABB=ON L13 (L)ANST/RL  
 L27 249406 SEA FILE=CAPLUS ABB=ON MODIF?/OBI  
 L31 195093 SEA FILE=CAPLUS ABB=ON DNA+OLD/CT  
 L32 144371 SEA FILE=CAPLUS ABB=ON RNA+OLD/CT  
 L33 96727 SEA FILE=CAPLUS ABB=ON PEPTIDES/CT  
 L34 86247 SEA FILE=CAPLUS ABB=ON POLYSACCHARIDES+OLD/CT  
 L35 121181 SEA FILE=CAPLUS ABB=ON LIPIDS+OLD/CT  
 L36 13416 SEA FILE=CAPLUS ABB=ON COVALENT?/OBI  
 L37 5588 SEA FILE=CAPLUS ABB=ON L31 OR L32 OR L33 OR L34 OR L35 OR L36  
 L38 9 SEA FILE=CAPLUS ABB=ON L37 AND L25

L8 STE.  
 L10 SCR 2026 AND 1006  
 L12 8068 SEA FILE=REGISTRY SSS FUL L8 AND L10  
 L13 21405 SEA FILE=CAPLUS ABB=ON L12  
 L15 2317 SEA FILE=CAPLUS ABB=ON SOLID SUPPORT#/OBI  
 L16 56610 SEA FILE=CAPLUS ABB=ON IMMOBILI?/OBI  
 L17 6566 SEA FILE=CAPLUS ABB=ON MICROARRAY?/OBI OR MICRO(L)ARRAY?/OBI  
 L18 541 SEA FILE=CAPLUS ABB=ON L13 (L) (L15 OR L16 OR L17)  
 L19 737 SEA FILE=CAPLUS ABB=ON L13 (L)ANST/RL  
 L29 1 SEA FILE=REGISTRY ABB=ON CYTOSINE/CN  
 L40 1 SEA FILE=REGISTRY ABB=ON GUANINE/CN  
 L41 10251 SEA FILE=CAPLUS ABB=ON L39 OR CYTOSINE/OBI  
 L42 37497 SEA FILE=CAPLUS ABB=ON L40 OR GUANINE/OBI  
 L43 8 SEA FILE=CAPLUS ABB=ON (L18 OR L25) AND (L41 OR L42)

==> L123 or L24 or L26 or L38 or L43

L45 41 L23 OR L24 OR L26 OR L38 OR L43

==> d ibib abs hitstr 141 1-41; fil 1.0m

1.4 ANSWER TO FED. TRADE COMMISSION'S QUESTIONS  
 ATTORNEY NUMBER: 100-1444-141111  
 DOCUMENT NUMBER: 141-1444-141111  
 TITLE: A method of determining the presence of a target nucleic acid sequence in a sample, and a nucleic acid probe for use in the method  
 INVENTOR(S): Hirunji, Kishinori; Yamada, Amy L.; Yamada, Richard W.; Watanabe, Keiji  
 PATENT ATTORNEY: T. H.  
 PCT/EP: PCT/EP2000/000001  
 PCT/SEARCH: 141-1444-141111

SEARCHED  
INDEXED  
MAILED 10/10/2000  
PCT/SEARCH: 141-1444-141111

AP The present invention relates, in general, to a method of attaching a biopolymer to a solid support and, in particular, to a method of attaching a nucleic acid to a glass surface, and to reagents suitable for use in such a method. The invention further relates to the product produced by the present method and to kits comprising same. Clean microscope slides were silanized with N-(3-diethoxymethylsilylpropyl)bromoacetamide (prepn. given). Four oligonucleotides differing in only the nucleotide at their (free) 3'-ends were arrayed. When the array was treated with polymerase and fluoresceinated terminator, specific labeling of only the primer with perfect complementarity to the template was obsd.

PT 3179-76-8, (3-Aminopropyl)methyldiethoxysilane 18306-79-1  
, 3-Aminopropylmethylethoxysilane

RL: R/T (Reactant); RACT (Reactant or reagent)

method of attaching biopolymers to **solid supports**

using bromoacetamidosilanes to functionalize supports

RN 3179-76-8 CAPIUS

CN 1-Propanamine, 3-(diethoxymethylsilyl)- (9CI) (CA INDEX NAME)

OEt

Me Si -(CH<sub>2</sub>)<sup>3</sup> NH<sub>2</sub>

OEt

RN 18306-79-1 CAPIUS

CN 1-Propanamine, 3-(ethoxydimethylsilyl)- (9CI) (CA INDEX NAME)

OEt

Me Si -(CH<sub>2</sub>)<sup>3</sup> NH<sub>2</sub>

Me

PT 256352-86-0P 256352-87-1P 256352-89-3P

437610-24-7P

RL: R/T (Reactant); SPN (Synthetic preparation); FPP (Preparation); RACT (Reactant or reagent)

method of attaching biopolymers to **solid supports**

using bromoacetamidosilanes to functionalize supports

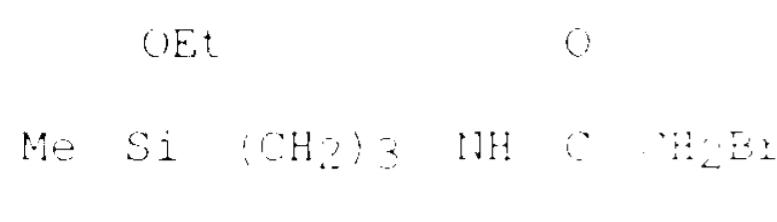
PT 256352-86-0 CAPIUS

CN 1-Propanamine, 3-(ethoxydimethylsilylpropyl)- (9CI) (CA INDEX NAME)

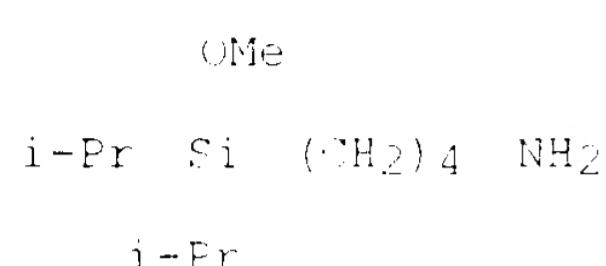
OEt

Me Si -(CH<sub>2</sub>)<sup>3</sup> NH<sub>2</sub> (OEt)

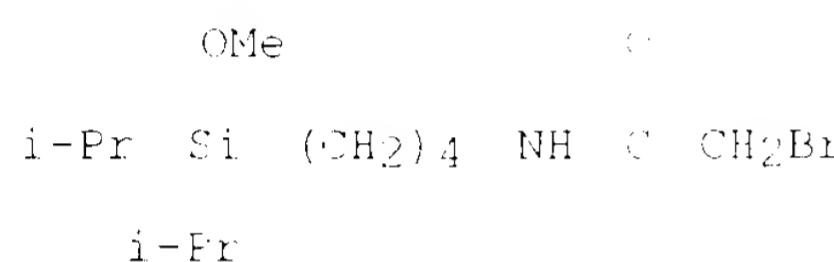
OEt



CA INDEX NAME  
1-Butanamine, 4-(methylsulfonyl)-3-ethyl- (9CI) (CA INDEX NAME)



RN 437610-24-7 CAPIUS  
CN Acetamide, 2-bromo-N-[4-[methoxybis(1-methylethyl)silyl]butyl]- (9CI) (77-  
INDEX NAME)



L45 ANSWER 2 OF 41 CAPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 2002:172444 CAPLUS  
DOCUMENT NUMBER: 136:229021  
TITLE: High-density functional slide for biomolecule immobilization and preparation method thereof for use in high-efficiency bio-chip microarray  
INVENTOR(S): Ho, Chih-wei; Chow, Zu-sho; Jan, Bor-iuan; Tsao, Tia-huey; Pan, Chia-chi; Kuo, Wen-hsun; Chang, Yao-sung; Wu, Chen-y-tao; Liu, Yu-ching  
PATENT ASSIGNEE(N): Taiwan  
CITY: Hsinchu, Taiwan  
COUNTRY: Taiwan  
DOCUMENT TYPE: Patent  
PRIORITY: 2001-03-02  
FAMILY ACT. NUM. 172444  
PATENT INFORMATION:

PATENT NO. FILED DATE APPLICATION NO. DATE  
----- ----- -----  
U.S. 2,918,784 10/15/63 10/15/63  
FIFTY EIGHT, ONE HUNDRED EIGHTY-THREE  
The invention relates to a method for separating

form a polymeric soln.; (b) adding the monomer of allyl alc. and acrolein to the polymeric soln. under anaerobic conditions; and (c) adding ceric ammonium nitrate to the soln. for catalysis. The polyvinylalc.-based polyaldehyde graft copolymer comprises 2-10 (w/v) polyvinylalc., 2-10 vol./vol. % monomer of acrolein and 1-5 vol./vol.) monomer of allyl alc.

17 919-30-2, Aminopropyltriethoxysilane

RL: DEV (Device component use); USES (Uses)

(A)TES, sol-gel; high-d. functional slide for biomol. immobilization and prepn. method thereof for high-efficiency bio-chip/  
**microarray**

EN 919-30-2 CAPLUS

CN 1-Ethpanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

Et<sub>2</sub>C<sub>2</sub>Si-(CH<sub>2</sub>)<sub>3</sub>-NH<sub>2</sub>

OEt

L41 ANSWER 3 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2002:90792 CAPLUS

DOCUMENT NUMBER: 136:275612

TITLE: Characteristics of DNA **microarrays**

fabricated on various aminosilane layers

AUTHOR (S): Oh, Soon Jin; Cho, Sung Ju; Kim, Chang Ok; Park, Joon Won

CORPORATE SOURCE: Center for Integrated Molecular Systems, Department of Chemistry, Division of Molecular and Life Sciences, Pohang University of Science and Technology, Pohang, 790-784, S. Korea

SOURCE: Langmuir (2002), 18(5), 1764-1769

CODEN: LANGD5; ISSN: 0743-7463

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Four kinds of aminosilane layers on glass slides or silicon wafers were prepnd. The amine densities of the layers prepnd. with aminopropyltriethoxymethylsilane (APTES), aminopropylmethoxydimethylsilane (AMDS), aminopropyltriethoxymethylsilane (AETES) and triethoxymethylsilane (TMDS) were 1.11, 1.11, 1.11, and 1.11 nmol/mmol, respectively. The AETES- and TMDS-treated surfaces showed relatively high amine densities, while the APMDS- and APDES-treated surfaces were relatively flat; on the other hand, the acridine-treated surface showed embossed morphology. The amine-modified surfaces were allowed to react with a heterobifunctional linker (2-(dimethylamino)-4-methacryloyloxybutyrate (DMA)) and subsequently polymerized emulsion polymerization was carried out on the DMA-modified surfaces. The surfaces of the DMA-modified surfaces showed a dynamic surface, the surface of the acridine-treated surfaces, and the surfaces of the APMDS- and

919-30-2

3179-76-8 18306-79-1

17 919-30-2 CAPLUS (Device component use); USES (Uses); (A)TES, sol-gel; high-d. functional slide for biomol. immobilization and prepn. method thereof for high-efficiency bio-chip/  
**microarray**

17 919-30-2 CAPLUS (Device component use); USES (Uses); (A)TES, sol-gel; high-d. functional slide for biomol. immobilization and prepn. method thereof for high-efficiency bio-chip/  
**microarray** ANST (Analytical study)

(DNA **microarrays** fabricated on various aminosilane layers)  
RN 919-30-2 CAPLUS  
CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

EtO Si (CH<sub>2</sub>)<sub>3</sub> NH<sub>2</sub>  
OEt

FN 3179-76-8 CAPLUS  
CN 1-Propanamine, 3-(diethoxymethylsilyl)- (9CI) (CA INDEX NAME)

OEt

Me Si (CH<sub>2</sub>)<sub>3</sub> NH<sub>2</sub>  
OEt

FN 18306-79-1 CAPLUS  
CN 1-Propanamine, 3-(ethoxydimethylsilyl)- (9CI) (CA INDEX NAME)

OEt

Me Si (CH<sub>2</sub>)<sub>3</sub> NH<sub>2</sub>  
Me

REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 4 OF 41 CAPLUS COPYRIGHT 2002 ACC  
ACCESSION NUMBER: 2002:51931 CAPLUS  
DOCUMENT NUMBER: 136:30856  
TITLE: Compositions and methods for array-based genomic analysis and analysis of biological molecules  
INVENTOR(S): Parikh, Alka, Parikh, Meenakshi, Parikh, Nitin  
PATENT AND PUBLICATION NUMBER: 7,202,344  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY AT&T. NUM. INDEX: 0  
PATENT INFORMATION:

PATENT NO.	ISSUE DATE	APPLICATION NO.	DATE
7,202,344	2007-11-21	10/30/2003	2005-07-07

1. A composition for use in an array-based genomic analysis, the composition comprising a substrate having a plurality of functionalized sites, and a plurality of molecules, each molecule having a functional group capable of forming a covalent bond with a functional group on the substrate, wherein the molecules are attached to the substrate at the functionalized sites.

2. The composition of claim 1, wherein the molecules are attached to the substrate via a linker.

3. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane.

4. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is a triethoxysilyl.

5. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is a triethoxymethylsilyl.

6. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is an ethoxydimethylsilyl.

7. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is a triethoxysilyl, and the functional group is a primary amine.

8. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is a triethoxymethylsilyl, and the functional group is a primary amine.

9. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is an ethoxydimethylsilyl, and the functional group is a primary amine.

10. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is a triethoxysilyl, and the functional group is a secondary amine.

11. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is a triethoxymethylsilyl, and the functional group is a secondary amine.

12. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is an ethoxydimethylsilyl, and the functional group is a secondary amine.

13. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is a triethoxysilyl, and the functional group is a primary amine, and the substrate is a glass substrate.

14. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is a triethoxymethylsilyl, and the functional group is a primary amine, and the substrate is a glass substrate.

15. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is an ethoxydimethylsilyl, and the functional group is a primary amine, and the substrate is a glass substrate.

16. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is a triethoxysilyl, and the functional group is a secondary amine, and the substrate is a glass substrate.

17. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is a triethoxymethylsilyl, and the functional group is a secondary amine, and the substrate is a glass substrate.

18. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is an ethoxydimethylsilyl, and the functional group is a secondary amine, and the substrate is a glass substrate.

19. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is a triethoxysilyl, and the functional group is a primary amine, and the substrate is a silicon substrate.

20. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is a triethoxymethylsilyl, and the functional group is a primary amine, and the substrate is a silicon substrate.

21. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is an ethoxydimethylsilyl, and the functional group is a primary amine, and the substrate is a silicon substrate.

22. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is a triethoxysilyl, and the functional group is a secondary amine, and the substrate is a silicon substrate.

23. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is a triethoxymethylsilyl, and the functional group is a secondary amine, and the substrate is a silicon substrate.

24. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is an ethoxydimethylsilyl, and the functional group is a secondary amine, and the substrate is a silicon substrate.

25. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is a triethoxysilyl, and the functional group is a primary amine, and the substrate is a polymer substrate.

26. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is a triethoxymethylsilyl, and the functional group is a primary amine, and the substrate is a polymer substrate.

27. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is an ethoxydimethylsilyl, and the functional group is a primary amine, and the substrate is a polymer substrate.

28. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is a triethoxysilyl, and the functional group is a secondary amine, and the substrate is a polymer substrate.

29. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is a triethoxymethylsilyl, and the functional group is a secondary amine, and the substrate is a polymer substrate.

30. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is an ethoxydimethylsilyl, and the functional group is a secondary amine, and the substrate is a polymer substrate.

31. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is a triethoxysilyl, and the functional group is a primary amine, and the substrate is a glass substrate.

32. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is a triethoxymethylsilyl, and the functional group is a primary amine, and the substrate is a glass substrate.

33. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is an ethoxydimethylsilyl, and the functional group is a primary amine, and the substrate is a glass substrate.

34. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is a triethoxysilyl, and the functional group is a secondary amine, and the substrate is a glass substrate.

35. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is a triethoxymethylsilyl, and the functional group is a secondary amine, and the substrate is a glass substrate.

36. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is an ethoxydimethylsilyl, and the functional group is a secondary amine, and the substrate is a glass substrate.

37. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is a triethoxysilyl, and the functional group is a primary amine, and the substrate is a silicon substrate.

38. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is a triethoxymethylsilyl, and the functional group is a primary amine, and the substrate is a silicon substrate.

39. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is an ethoxydimethylsilyl, and the functional group is a primary amine, and the substrate is a silicon substrate.

40. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is a triethoxysilyl, and the functional group is a secondary amine, and the substrate is a silicon substrate.

41. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is a triethoxymethylsilyl, and the functional group is a secondary amine, and the substrate is a silicon substrate.

42. The composition of claim 1, wherein the molecules are attached to the substrate via a linker, and the linker is a silane, and the silane is an ethoxydimethylsilyl, and the functional group is a secondary amine, and the substrate is a silicon substrate.

group. The invention also provides arrays, or "biochips," comprising these modified biol. mols. Also provided are methods for making and using these arrays.

919-30-2, 3-Aminopropyltriethoxysilane 2530-83-8,  
3-Glycidoxypropyltrimethoxysilane  
RI: ANG (Analytical reagent use); BUU (Biological use, unclassified);  
**ANST (Analytical study)**; BIOL (Biological study); USES (Uses  
(Components and methods for array-based genomic nucleic acid anal. of  
biol. mols.))  
FU: 919-30-2 (CAPIUS)  
W: 1-Hexamethylene, 3- triethoxysilyl- (3CI) (CA INDEX NAME)

QET

$$\text{EtC-Si-(CH}_2\text{)}_3-\text{NH}_2$$

CH<sub>3</sub>CO<sub>2</sub><sup>+</sup>

EN 2530-8.3-8 CAFLUS

TM Silane, trimethoxy(3-(oxiranylmethoxy)propyl)- (9CI) (CA INDEX NAME)

OMe

$$\text{CH}_2=\text{CH}(\text{CH}_2)_3\text{SiOMe}$$

One

L45 ANSWER 3 OF 41 CAPLUS COPYRIGHT 2002 ACD

ACCESSION NUMBER: 2002:51489 CAPIUSS

DOCUMENT NUMBER: 136:98799

**TITLE:** Improved combination of microporous membrane and solid support for micro-analytical diagnostic applications

PATENT LAW OFFICES : Cuno, Inc., USA

SEARCHED: PCT Int. Appl., 34 pp.

CODEN: PIIXDZ

DOCUMENT TYPE: Patent

wherein the porous nylon multi-cell substrate is covalently bonded to a solid base member, such as, for example, a glass or Mylar microscope slide, such that the combination produced thereby is useful in microarray applications. App. for fabricating a multi-cell substrate is also disclosed. Diagrams describing the app. are given.

IT 919-30-2, 3-Aminopropyltriethoxysilane 1760-24-3,  
N-(2-Aminethyl)-3-aminopropyltrimethoxysilane 2530-83-8,  
3-Glycidoxypolypropyltrimethoxysilane  
RL: NUU (Other use, unclassified); USES (Uses)  
(improved combination of microporous membrane and **solid support** for micro-anal. diagnostic applications)  
RN 919-30-2 CAPLUS  
CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

RN 919-30-2 CAPIUS  
CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

□ E t

$$\text{EtO-Si-(CH}_2)_3-\text{NH}_2$$

• 11

RN 1760-24-3 CAPLUS

CN 1,2-Ethanediamine, N-[3-(trimethoxysilyl)propyl]- (9CI) (CA INDEX NAME)

:<sup>3</sup>Me

$$\text{MeO} \text{ Si} (\text{CH}_2)_3 \text{ NH} \text{ CH}_2 \text{ NH}_2$$

:<sup>13</sup>Me

RN 2530-B3-8 CAPLUS

CN Silane, trimethoxy(-) (oxiranylmethoxy)propyl- (9CI) (CA INDEX NAME)

$$\text{CH}_2=\text{O} \rightarrow (\text{CH}_2)^3 \rightarrow \text{CH}_3$$

are derivatized with various nucleophiles or electrophiles. In the latter case, a variety of surface chemistries have been developed, and several are available now. These chemistries must be compatible with nanometer-scale walls of polynucleotide reagents, which contact the array over a small portion of their surface. We reasoned that a three-dimensional polymer coating could potentially offer greater surface contact and higher binding efficiency. Here we describe a polyethylenimine-based coating chem. that provides exceptional binding and hybridization characteristics. In our preferred process, size-fractionated polyethylenimine polymers are cross-linked onto an aminopropylsilanated glass surface in the presence of cyanuric chloride. The resulting three-dimensional coating binds polynucleotides through a mixt. of covalent and noncovalent interactions as evidenced by comparisons between 5'-aminoalkyl modified and unmodified polynucleotides. Binding and hybridization comparisons are presented including analogous two-dimensional electrophilic and electrostatic chemistries.

IT 13822-56-5, 3-Aminopropyltrimethoxysilane  
RL: R-7F (Reactant); RACT (Reactant or reagent)  
efficient binding chem. for glass polynucleotide **microarrays**  
, synthesis and characterization of glass surface coatings)  
RN 13822-56-5 CAPLUS  
CN 1-Propanamine, 3-(trimethoxysilyl)- (9CI) (CA INDEX NAME)

OMe

MeO Si (CH<sub>2</sub>)<sub>3</sub> NH<sub>2</sub>

OMe

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 7 OF 41 CAPLUS COPYRIGHT 2002 ACF  
ACCESSION NUMBER: 2001:362711 CAPLUS  
DOCUMENT NUMBER: 136:163471  
TITLE: HPLC of some nucleosides and bases on  
p-tert-butyl-calix[6]arene-bonded silica as  
stationary phase  
AUTHOR(S): Xiao, Yu-Xiu; Xiao, Xianu-Shu; Feng, Yu-Qi; Wang,  
Chun-Hua; Li, Shu-Jie  
ADDITIONAL AUTHOR(S): Li, Shu-Jie; Wang, Yu-Qi; Xiao, Xianu-Shu;  
Xiao, Yu-Xiu; Feng, Yu-Qi; Wang, Chun-Hua  
PUBLISHER: Marcel Dekker, Inc.  
COMMENT TYPE: Journal  
LANGUAGE: English  
ABSTRACT: The liquid-phase chromatographic behavior of some nucleosides and  
bases was studied on a new p-tert-butyl-calix[6]arene-bonded silica as  
stationary phase. The effect of mobile phase methanol, column length  
and column temperature on the chromatographic behavior was studied.

13822-56-5  
13822-56-5 CAPLUS



WO 2001075166 A2 20011011 WO 2001-US10482 20010330  
WO 2001075166 A3 20020501  
CN: AE, AR, AT, AU, AZ, BA, BE, BG, BR, BY, CZ, DA, CH, CN,  
DK, EE, ES, FI, GB, GI, GE, GH, GM, HR,  
HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT,  
LU, LV, MA, MD, MG, MK, MN, MW, MX, ME, NO, NZ, PL, PT, RO, RU,  
SI, SE, SG, SI, SK, SL, TG, TM, TR, TT, TZ, UA, UG, UZ, VN, YU,  
ZA, ZW, AM, AZ, BY, BG, KZ, MD, RU, TJ, TM  
DE: GH, GM, KE, LS, MW, ME, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,  
DE, DE, ES, FI, FR, GB, GR, IE, IT, LU, EC, NL, PT, SE, TR, BE,  
BL, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 2002081597 A1 20020627 US 2001-823648 20010330

## PRIORITY APPLN. INFO.:

US 2000-193767P F 20000331

AP: Compns. and methods for improving detection sensitivity in nucleic acid microarray anal. are disclosed, including methods of purifying nucleic acids, methods of synthesizing fluorescent DNA probes, methods of hybridization, and methods of activating a substrate for target mol. attachment. The compns. and methods of this invention include synthesis of cDNA, sDNA, or cRNA probes from cellular RNA by in vitro transcription and/or a single-round of reverse transcription with incorporation of fluorochromes. Specific procedures for microarray slide prepns. to decrease background fluorescence are given. For example, silanization of glass slides with toluene as the solvent is preferred. In addn., unmodified polynucleotides can attach to a glass slide treated with 3-aminopropyltriethoxysilane followed by phenylene diisothiocyanate. Modified target DNA can also be synthesized using PCR primers which contain a primary amine and an alkyl linker attached to the 5'-end. The modified target DNA is then reacted with activated silanized glass slides. Microarray hybridization buffers contg. alkylammonium salts, dimethylsulfoxide and formamide and lacking the detergent sodium dodecyl sulfate also improved the detection sensitivity. The invention is illustrated with microarrays hybridized with fluorescent probes synthesized from very small quantities of RNA isolated from microdissected tumor cells, paraffin-embedded liver and colon tissue, fresh frozen liver tissue, and fresh frozen colon tissue. The microarray expts. were designed to compare tissue sample prepns. methods and gene expression in tumor vs. healthy tissues. An example of the sensitivity of these methods shows a microarray hybridized with sDNA probes from one round of amplification of 2 pg of RNA from an ovarian carcinoma cell line.

## IT 919-30-2, 3-Aminopropyltriethoxysilane

RI: BPU (Biological use, unclassified); DEV (Device component use); RCT (Reagent); RIL (Industrial use); RMT (Treatment or therapy); UMF (Use in food)

Abstract: A method for labeling and purifying RNA, cDNA and proteins in microarrays

1. A method for labeling

2. A method for labeling, purifying and quantifying RNA, cDNA and proteins in

3. A

4. A

5. A

6. A

7. A

8. A

SOURCE: PCT Int. Appl., 27 pp.

OPEN: FIMXIM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001070641	A1	20010927	WO 2001-US8993	20010321
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,				
CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM,				
HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KE, LC, LK, LR, LS,				
LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NZ, NO, NZ, PL, PT, RO,				
RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN,				
YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
SW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,				
DE, DK, ES, FI, FR, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,				
BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6413722	B1	20020702	US 2000-532419	20000322
US 2002037509	A1	20020328	US 2001-775319	20010201
US 6387631	B2	20020514		

PRIORITY APPLN. INFO.: US 2000-532419 A 20000322

OTHER SOURCE(S): MARPAT 135:269660

AB Methods are provided for modifying a solid support, such as a glass slide, by silylating with an agent having the formula  $\text{H}_2\text{N}(\text{CH}_2)_n\text{SiX}_3$  ( $n = 1-10$ , X = independently chosen from OMe, OEt, Cl, Br, I), then activating with a crosslinking reagent, followed by reacting with an amine-contg. polymer. The support can optionally be reacted with a crosslinking reagent again. The support thus modified may be used to make arrays and microarrays where a plurality of targets are stably assoc'd. with the support and arranged in a defined manner. Thus, glass slides were silylated with 3-aminopropyltrimethoxysilane. The silylated slides were reacted with cyanuric chloride then with PEI, polylysine, or polyhistidine. 3'-Aminoalkyl-terminated oligonucleotides were spotted on such slides and used in hybridization assays.

IT 13822-56-5, 3-Aminopropyltrimethoxysilane

RL: RCT (Reactant); RACT (Reactant or reagent)

(polymer coated surfaces for microarray applications)

RN 13822-56-5 CAFES

CN i-Propylamine, 3-trimethoxylpropyl- (CA INDEX NAME)

M

M: 13822-56-5 NH

OMe

REFERENCE COUNT: 33 PCT APP. 13822-56-5 THE REFERENCE AVAILABLE FOR THIS PCT APP. ARE NOT FULLY AVAILABLE IN THE PCT APP. INDEX. THE INDEX IS NOT FULLY AVAILABLE FOR THIS PCT APP.

PCT APP. 13822-56-5

33 PCT APP. 13822-56-5 THE REFERENCE AVAILABLE FOR THIS PCT APP. ARE NOT FULLY AVAILABLE IN THE PCT APP. INDEX. THE INDEX IS NOT FULLY AVAILABLE FOR THIS PCT APP.

PUBLISHER: Wiley-VCH Verlag GmbH  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB: The generation of chem. activated glass surfaces is of increasing interest for the prodn. of microarrays contg. DNA, proteins, and low-mol.-wt. components. We here report on a novel surface chem. for highly efficient activation of glass slides. Our method is based on the initial modification of glass with primary amino groups using a protocol, specifically optimized for high aminosilylation yields, and in particular, for homogeneous surface coverages. In a following step the surface amino groups are activated with a homobifunctional linker, such as disuccinimidylglutarate (DSG) or 1,4-phenylenediisothiocyanate (FDITC), and then allowed to react with a starburst dendrimer that contains 64 primary amino groups in its outer sphere. Subsequently, the dendritic monomers are activated and crosslinked with a homobifunctional spacer, either DSG or FDITC. This leads to the formation of a thin, chem. reactive polymer film, covalently affixed to the glass substrate, which can directly be used for the covalent attachment of amino-modified components, such as oligonucleotides. The resulting DNA microarrays were studied by means of nucleic acid hybridization expts. using fluoresphorlabeled complementary oligonucleotide targets. The results indicate that the novel dendrimer-activated surfaces display a surface coverage with capture oligomers about twofold greater than that with conventional microarrays contg. linear chem. linkers. In addn., the expts. suggest that the hybridization occurs with decreased steric hindrance, likely a consequence of the long, flexible linker chain between the surface and the DNA oligomer. The surfaces were found to be resistant against repeated alk. regeneration procedures, which is likely a consequence of the crosslinked polymeric structure of the dendrimer film. The high stability allows multiple hybridization expts. without significant loss of signal intensity. The versatility of the dendrimer surfaces is also demonstrated by the covalent immobilization of streptavidin as a model protein.

IT: 392661-75-5 392661-76-6

RL: ARU (Analytical role, unclassified); DEV (Device component use);  
**ANST (Analytical study); USES (Uses)**

(condensation on silica; dendrimer-activated **solid supports** for nucleic acid and protein **microarrays**)

RN: 392661-75-5 CAPIUS

TM: Pentanamide, 5-[(1,5-dioxa-1-pyrrolidinyl)oxy]-5-exo-N-[3-(triethoxysilyl)propyl]- (9CI) (CA INDEX NAME)

Chemical Name: 5-[(1,5-dioxa-1-pyrrolidinyl)oxy]-5-exo-N-[3-(triethoxysilyl)propyl]pentanamide  
Chemical Structure:



PUBLISHER: Oxford University Press  
DOCUMENT TYPE: Journal  
LANGUAGE: English

The double helix is known to form as a result of hybridization of complementary nucleic acid strands in aq. soln. In the helix the negatively charged phosphate groups of each nucleic acid strand are distributed helically on the outside of the duplex and are available for interaction with cationic groups. Cation-coated glass surfaces are now widely used in biotechol., esp. for covalent attachment of cDNAs and oligonucleotides as surface-bound probes on microarrays. These cationic surfaces can bind the nucleic acid backbone electrostatically through the phosphate moiety. Here we describe a simple method to fabricate DNA microarrays based upon adsorptive rather than covalent attachment of oligonucleotides to a pos. charged surface. We show that such adsorbed oligonucleotide probes form a densely packed monolayer, which retains capacity for base pair-specific hybridization with a soln. state DNA target strand to form the duplex. However, both strand dissocn. kinetics and the rate of DNase digestion suggest, on symmetry grounds, that the target DNA binds to such adsorbed oligonucleotides to form a highly asym. and unwound duplex. Thus, it is suggested that, at least on a charged surface, a non-helical DNA duplex can be the preferred structural isomer under std. biochem. conditions.

13822-56-5, 3-Aminopropyltrimethoxysilane

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)

## oligonucleotide charged surface

RN 13822-56-5 CAPLUS  
CN 1-Propylamine, 3-(trimethoxysilyl)- (9CI) (CA INDEX NAME)

COMING

### Mer. Sci. (U.S.A.), N.H.

卷之三

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

1996-03-26 10:00:00 1996-03-26 10:00:00

• [View Details](#) • [Edit Details](#) • [Delete](#)

for six successive detns. at 1.times.10-6 mol/L soln. The detection limit is 2.times.10-7 mol/L.

IT 13822-56-5, (3-Aminopropyl)Trimethoxysilane  
RL: ARU (Analytical role, unclassified); DEV (Device component used);  
**ANST (Analytical study); USES (Uses)**  
(DNA immobilization on nano-gold modified ITO for detn. of mifepristone)

RN 13822-56-5 CAPLUS

CN 1-Propanamine, 3-(trimethoxysilyl)- (CA INDEX NAME)

OMe

MeO Si (CH<sub>2</sub>)<sub>3</sub> NH<sub>2</sub>

OMe

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 14 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:320387 CAPLUS

DOCUMENT NUMBER: 134:363619

TITLE: A factorial analysis of silanization conditions for the immobilization of oligonucleotides on glass surfaces

AUTHOR(S): Halliwell, Catherine M.; Cass, Anthony E. G.

CORPORATE SOURCE: Department of Biochemistry Imperial College of Science Technology and Medicine, University of London, London, SW7 2AY, UK

SOURCE: Analytical Chemistry (2001), 73(11), 2476-2483

CODEN: ANCHAM; ISSN: 0003-2760

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The modification of glass surfaces with (3-mercaptopropyl)trimethoxysilane and the application of this to DNA chip technol. are described. A range of factors influencing the silanization method, and hence the no. of surface-bound, chem. active thiol groups, were investigated using a design of expt. approach based on anal. of variance. The no. of thiol groups introduced onto a substrate were measured directly using a specific radiolabel, [<sup>35</sup>S]-mercaptoethanol. For liquid-phase silanization, the no. of surface-bound thiol groups was found to be dependent on the silanization time, the silanization time and silanization time, and relatively independent of reaction time, reaction temp., and sample pre-treatment. Depending on the initial no. of thiol groups, 0.5 to 1.5 times as many thiol groups were on the glass sample as were bound. The reliability and repeatability of liquid- and vacuum-phase silanization were also investigated. Eighteen-base oligonucleotide probes were covalently attached to the modified surfaces via 3'-amin. modification of the DNA and subsequent reaction with the crosslinking reagent N-(2-mercaptoethylimidazolyl)-N,N-dimethylbenzylamine (MBD). The resulting probe density was found to be 1.5 times that of the unmodified surface.

919-30-2, (3-Aminopropyl)Trimethoxysilane

RL: ARU (Analytical role, unclassified); DEV (Device component used);

**ANST (Analytical study); USES (Uses)**

oligonucleotides on glass surfaces)

EN 419-31-2 CAPIUS

N 1-aminohexyl, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

1.E1

Et<sub>3</sub>Si(OCH<sub>2</sub>)<sub>3</sub> NH<sub>2</sub>

1.E1

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 15 OF 41 CAPIUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:284303 CAPIUS

DOCUMENT NUMBER: 135:42876

TITLE: Peptide and small molecule **microarray** for

high throughput cell adhesion and functional assays

AUTHOR(S): Falsey, James R.; Renil, M.; Park, Steven; Li, Shijun; Lam, Kit S.

CORPORATE SOURCE: UC Davis Cancer Center Division of Hematology/Oncology and Department of Internal Medicine, University of California Davis, Sacramento, CA, 95317, USA

SOURCE: Biocconjugate Chemistry (2001), 12(3), 346-353

CODEN: BCCHE; ISSN: 1043-1802

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A novel class of chem. microchips consisting of glass microscope slides was prep'd. for the covalent attachment of small mol. ligands and peptides through site-specific oxime bond or thiazolidine ring ligation reaction. Com. available microscope slides were thoroughly cleaned and derivatized with 3-aminopropyltriethoxysilane (APTES). The amino slides were then converted to glyoxylyl derivs. via two different routes: (1) coupling of Fmoc-Ser followed by deprotection and oxidn., or (2) coupling with protected glyoxylic acid and final deprotection with HCl. Biotin or peptide ligands derivatized at the carboxyl terminus with a 4,7,10-trioxa-1,13-tridecanediamine succinimic acid linker and an amino-xy group or a 1,2-amino-thiol group (e.g., cysteine with a free N-atom) were printed onto these slides using a *pin* microarray spotting. After spot derivatization, the microarray slides (150) were analyzed with three different microarray: (1) biotinylation and spotting with different biotinylated ligands, (2) biotinylation and spotting with different peptides, and (3) biotinylation and spotting with different antibodies. In addition to the cell adhesion assay, in which we can test the binding specificity of the peptide against different cell lines, we can also test the cell adhesion property of attached cells using immunofluorescence techniques *in situ* on the microchip. This chem. microchip system enables the capability to analyze the functional properties of numerous ligands that we have generated from the "de novo" design of a peptide library.

OEt

$$\text{EtO-Si-(CH}_2\text{)}_5\text{-NH}_2$$

OEt

REFERENCE COUNT: 42. THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT.

L45 ANSWER 16 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:159116 CAPLUS

DOCUMENT NUMBER: 134:307437

TITLE:

**AUTHOR(S) :**

CORPORATE SOURCE:

SOURCE:

PUBLISHER: Academic Press

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Immobilization of biomols. on surfaces while keeping the max. conformational flexibility of the mols. is one of the most important techniques for at. force microscopy imaging. We have developed two methods of controlling adsorption of DNA mols. on mica surfaces. The first method is the use of a mica surface modified with dild. 3-aminopropyltriethoxysilane (APS). Here we named this a "dild. APS-treated mica (AF-mica)" technique. The second method is the use of a mica surface modified with mixed self-assembled monolayers of organosilanes. In both of the techniques, the no. of DNA mols. immobilized on a mica surface was controlled. Further, a conformational change of circular DNA, from a supercoiled to a relaxed form was obsd. for the mols. immobilized on a dild. AF-mica surface, when 254-nm UV light was irradiated. This observation demonstrated that flexibility of circular DNA mols. was kept on a dild. AF-mica surface. © 2001 Academic Press.

IT 919-30-2, 3-Aminopropyltriethoxysilane

RL: ARU (Analytical role, unclassified); DEV (Device component use);

ANST (Analytical study); 1971-1972

## III. THEORETICAL CONSIDERATIONS

10

## ESTATE PLANNING FOR THE MATURED INDIVIDUAL

3

INVENTOR(S): microarrays  
 Ansorge, Wilhelm; Faulstich, Konrad  
 PATENT ASSIGNEE(NM): Europaeisches Laboratorium Fuer Molekulare Biologie  
 (EMBL), Germany  
 SOURCE: PCT Int. Appl., 38 pp.  
 CODEN: PIXMP1  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACT. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001014585	A1	20010301	WO 2000-EP8193	20000822
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, IE, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MC, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SI, SF, SG, SI, SF, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, EG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SE, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GE, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CE, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
DE 19916073	A1	20010301	DE 2000-10016073	20000331
EP 1212466	A1	20020612	EP 2000-962356	20000822
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				

PRIORITY APPLN. INFO.: DE 1999-19940077 A 19990824  
 DE 2000-10016073 A 20000331  
 WO 2000-EP8193 W 20000822

AB: The invention relates to methods for covalent immobilization of biopolymers, esp. those of nucleic acids, on a solid phase. Covalent bonds are made between primary or/and secondary amino groups of said biopolymers and groups of the solid phase which react with said amino groups. Silica-based solid phases with defined functional groups are used for the immobilization of 5' amino-modified nucleotides; the prep'd. DNA microarrays are used in amplification procedures.

IT: 51895-58-0

RI: DEV (Device component used); USES (Uses)  
 -method for covalent immobilization and labeling of biopolymers esp.  
 -prep'd. of nucleic acid **microarrays**

PK: 51895-58-0

CL: 51895-58-0, 51895-58-0, 51895-58-0, 51895-58-0, 51895-58-0, 51895-58-0

Mo: 1,4-phenylene-NH-CH<sub>2</sub>-N<sub>2</sub>-NH

Mo:

REFERENCE UNIT: THERE ARE 10 DIFFERENT REFERENCES RELATING TO THIS.

1. Ansorge, W., Faulstich, K., et al. (1999) *Proc Natl Acad Sci USA* 96: 12579-12584. *Covalent immobilization of 5'-amino-modified nucleotides on solid supports*.

SOURCE: PCT Int. Appl., 55 pp.  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000079006	A1	20001228	WO 2000-0816722	20000616
W: AU, CA, DE, NL				
RW: AT, BE, CH, FR, IE, DK, ES, FI, FR, GE, GR, IE, IT, LU, MT, NL,				
PT, SE				

PRIORITY APPLN. INFO.: 101 1999-13484 P 19990617

AB Arrays of HLA Class I oligonucleotide probes on a solid support are provided, wherein the probes are sufficient to represent at least 80% of the known polymorphisms in exons 2 and 3 of the HLA Class I locus.

IT 13822-56-5, Aminopropyltrimethoxysilane

RL: ARU (Analytical role, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); **ANST (Analytical study)**; BIOL (Biological study); USES (Uses)

(solid support derivatized with; oligonucleotide arrays for high resoln. HLA typing and transplant compatibility anal.)

RN 13822-56-5 CAPIUS

CN 1-Propanamine, 3-(trimethoxysilyl)- (9CI) (CA INDEX NAME)

OMe

$$\text{MeO} \quad \text{Si} \quad (\text{CH}_2)_3 \quad \text{NH}_2$$

OMe

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 18 OF 41 TAKING COPYRIGHT © 2011 ACT

ACCESSION NUMBER: 2003.098.959 (FILED)

DOCUMENT NUMBER: 1311292352

**TITLE:** Bivalent attachment of DNA to glass supports using a new mixture of glutaraldehyde and hexamethylenediamine to prevent protein crosslinking

Journal of Clinical Medicine, Faculty of Medicine, Mahidol University, Bangkok, Thailand, 10073, ISSN 0818-0306, Vol. 10, No. 1, January 2001.

PUBLISHER: Tamil Nadu Medical University

DOCUMENT TYPE: ANSWER

MANUFACTURED BY: **SHANGHAI HUAWEI** (SHANGHAI) CO., LTD.

RL: AEU (Analytical role, unclassified); BAC (Biocidal activity or effectiveness, except adverse); BPK (Biological process); BSI (Biological study, unclassified); **ANST (Analytical study)**; BBL (Biological study); EKC (Process)

Surface valent attachment of DNA to glass supports using a new silane coupling agent and chemiluminescent detection

3179-76-8 CAPLUS

1-(Triethoxysilyl)-3-(3CI) (CA INDEX NAME)

OEt

EtO Si (CH<sub>2</sub>)<sub>3</sub> NH<sub>2</sub>

OEt<sup>+</sup>

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

141 ANSWER 20 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2000:670668 CAPLUS

DOCUMENT NUMBER: 134:159600

TITLE: Protein microarrays for monitoring of structural changes of proteins via surface enhanced metal nano cluster resonance

AUTHOR(S): Mayer, Christian; Palkovits, Roland; Bauer, Georg; Schalkhammer, Thomas

CORPORATE SOURCE: Kluyver B. for Biotechnology, TU-Delft, Delft, 2628BC, Neth.

SOURCE: Micro Total Analysis Systems 2000, Proceedings of the mu.TAS Symposium, 4th, Enschede, Netherlands, May 14-18, 2000 (2000), 553-556. Editor(s): Van den Berg, Albert; Olthuis, W.; Bergveld, Piet. Kluwer Academic Publishers: Dordrecht, Neth.

CODEN: 69AJPP

DOCUMENT TYPE: Conference

LANGUAGE: English

ABSTRACT: Structural changes of ultra thin protein layers caused by changes in microenvironment, meaning a conformational change of the protein, were transferred into a optical signal obsev. directly as a color change of a metal surface. We have successfully developed the method to monitor the structural changes of proteins by the surface enhanced metal nano cluster resonance. The optical measurement of the wavelength of the light reflected from metal nano clusters depends on the proteins. The dependence of the wavelength on the protein was measured optically directly in the visible and IR range of the spectrum. This set-up enabled us to transfer a measure of protein conformation of various serum proteins and enzymes into a visual result, reversibly and directly visible to the human eye.

3179-76-8

EtO Si (CH<sub>2</sub>)<sub>3</sub> NH<sub>2</sub>

1-(Triethoxysilyl)-3-(3CI) (CA INDEX NAME)

OEt

$$\text{Me} \quad \text{Si} \quad (\text{CH}_2)_3 \quad \text{NH}_2$$

( )Et

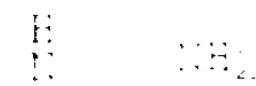
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 21 OF 41 CAPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 2000:384565 CAPLUS  
DOCUMENT NUMBER: 133:26236  
TITLE: Methods and compositions for performing an array of chemical reactions on a support surface  
INVENTOR(S): Zebala, John A.  
PATENT ASSIGNEE(S): Syntrix Biochip, Inc., USA  
SOURCE: PCT Int. Appl., 157 pp.  
COPEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 4  
PATENT INFORMATION:

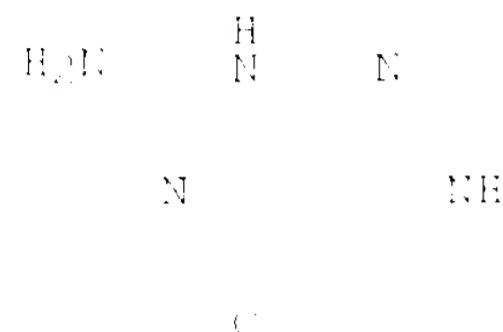
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000033084	A2	20000608	WO 1999-US28021	19991123
WO 2000033084	A3	20000810		
	W:	AF, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, ME, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AT, BY, KG, KZ, MD, RU, TJ, TM		
	RW:	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG		
EI 1165374	A2	20011219	EP 1999-961813	19991123
	R:	AT, BE, CH, DE, DK, ES, FR, GE, IT, LI, LU, NL, SE, MN, PT, IE, NL, PT, MN, PT		

Another approach to the synthesis of biodegradable polymers is to use a polymer-supported solid-phase synthesis. A synthesis of a polymer-supported methionine may employ a divalent-activating agent such as DCC, or a cyclic anhydride, such as DMAP, to couple the ligands, for use within a variety of bioluminescent and drug-disposition assays. Ligand-assays may employ, for example, multibase polymers that are resistant to degradative enzymes. The prodrugs of enalaprilat and lisinopril were synthesized in this solid-phase synthesis method, and tested for hydrolytic stability and bioavailability.

71-30-7, Cytosine 73-40-5, Guanine



RN 273752-55-9 CAPLUS  
CN 6H-Purin-6-one, 2-amino-1,7-dihydro- (9CI) (CA INDEX NAME)



IT 273752-55-9DP, immobilized 273752-56-0DP,  
immobilized 273752-57-1DP, immobilized  
273752-58-2DP, immobilized 273752-59-3DP,  
immobilized 273752-60-6DP, immobilized  
273752-61-7DP, immobilized 273752-62-8DP,  
immobilized 273752-63-9DP, immobilized  
RL: DEV (Device component use); PEP (Physical, engineering or chemical  
process); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
PROC (Process); RACT (Reactant or reagent); USES (Uses)  
(prepn. and detachment of; methods and compns. for performing arrays of  
chem. reactions on support surfaces using photoresists)  
RN 273752-55-9 CAPLUS  
CN L-Proline, N-[(1S)-1-carboxy-2-phenylethyl]-L-alanyl-,  
2-(1,1-dimethyl-3-[4-[2-oxo-2-[(3-(triethoxysilyl)propyl)amino]ethoxy]phenyl]propyl) ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

FIGURE 1-E

Et<sub>2</sub>O  
Et<sub>2</sub>O  
Et<sub>2</sub>O

RN 273752-56-0 CAFLUS  
CN L-Proline, N-[(1R)-1-carboxy-2-(2-nitrophenylethyl)-L-alanyl-2-[1,1-dimethyl-3-[4-[2-oxo-2-[[3-(triethoxysilyl)propyl]amino]ethoxy]phenyl]propyl] ester (W1) (CA INDEX NAME)

### Absolute stereochemistry.

PAGE 1-A

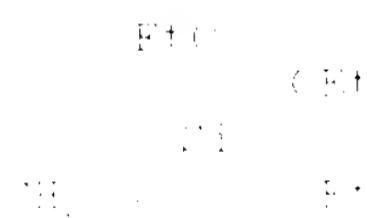
THE BOSTONIAN

#### WTA INDEX NAME

## Absolute stereochemistry.

PAGE 1-3

PAGE 1-E



For a detailed description of the model, see the main text.

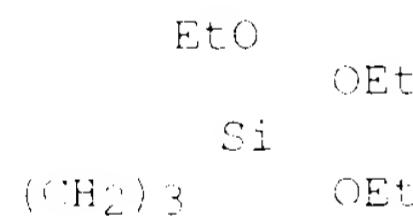
Chunduru

119 E. 46085

T H E

PAGE 1-A

PAGE 1-B



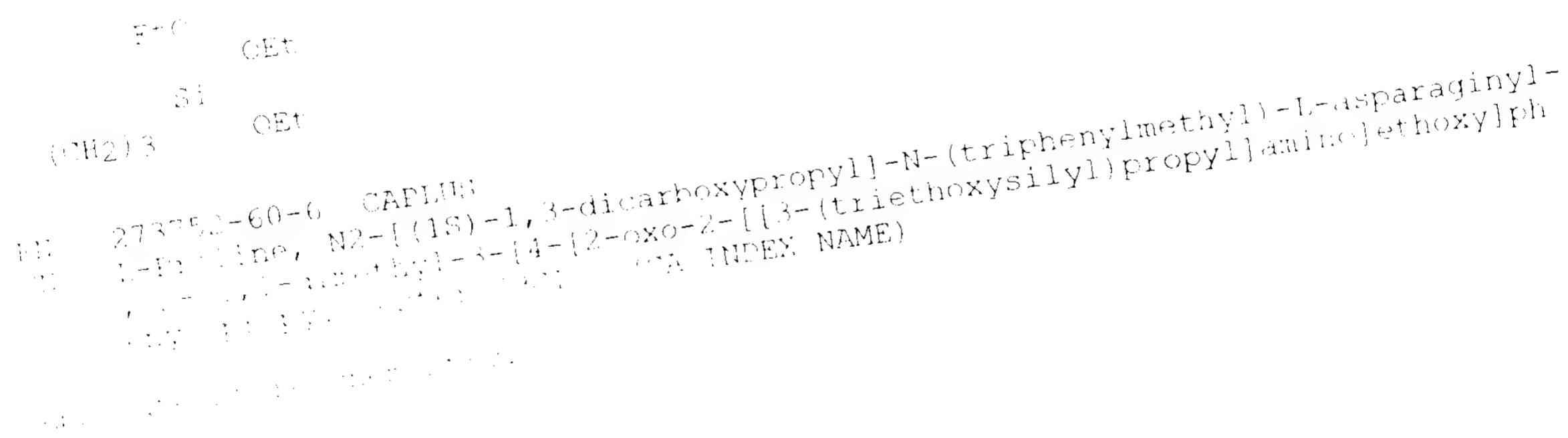
RN 273752-59-3 CAPLUR

第二章 中国古典文学名著与现代文学名著

Chundury

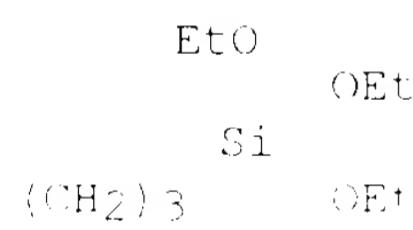
PAGE 1 - 5

PAGE 1-13



PAGE 1-A

PAGE 1-B



RN 273752-61-7 CAPTION

## 第三章 中国古典文学名著与现代文学名著的比较

PAGE 1-H

PAGE 1-F

$$E^+ \rightarrow$$

$$e^+ E^+$$

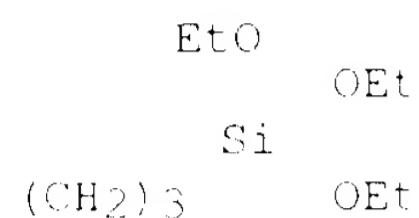
$$e^- \bar{e}$$

$$e^- E^+$$

128 *Journal of Health Politics, Policy and Law*



PAGE 1-B



RN 273752-63-9 CAFUS

CN L-Proline, N-[(1S)-1,3-dicarboxypropyl]-O-(1,1-dimethylethyl)-L-seryl-,  
2-[1,1-dimethyl-3-[4-[2-oxo-2-[(1S)-triethoxysilyl]propyl]amino]ethoxy]phenylpropyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-E

$$\begin{array}{ccc}
 \text{Et} & & \text{OEt} \\
 | & & | \\
 \text{Si} & & \text{OEt} \\
 | & & | \\
 \text{t}(\text{H}_2) & & \text{OEt}
 \end{array}$$

L41 ANSWER 21 OF 41 CAPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 2000:54038 CAPLUS  
DOCUMENT NUMBER: 132:90351  
TITLE: Photoluminescent semiconductor materials  
INVENTOR(S): Armstrong, David W.; Lafrance, Martine L.  
PATENT ASSIGNEE(S): Iatroquest Corporation, Can.  
SOURCE: PCT Int. Appl., 37 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000003230	A1	20000120	WO 1999-CA642	19990709
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, IE, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TK, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MP, RU, TJ, TM				
EP: GH, IM, KE, LS, MW, PL, SL, ST, TR, TW, AT, BE, CH, CY, DE, DK, FI, FR, GR, IE, IT, LT, LU, NL, NO, PT, SE, SI, SP, TR, BE, FI, IE, LT, LU, NL, NO, PT, SE, SI, SP				
AU 20002003230	A1	20000120	AU 20002003230	20000120
FI 1999-CA642	A1	19990709	FI 1999-CA642	19990709
Int. B7, B8, B9, B10, B11, B12, B13, B14, B15, B16, B17, B18, B19, B20, B21, B22, B23, B24, B25, B26, B27, B28, B29, B30, B31, B32, B33, B34, B35				

W-1944-Mod. W-1949-Mod.

All significant materials having a porous texture are described which are saturated with a liquid and are anti-porous, i.e., that luminous and transparent liquid which has the property of diffusion. The second class is that of porous materials, and these will be anti-porous, i.e.,

IT **919-30-2DP**,  $\gamma$ -Aminopropyltriethoxysilane, reaction products with oxidized porous silicon and recognition moieties **2530-83-8DP**,  $\beta$ -Glycidoxypropyltrimethoxysilane, reaction products with oxidized porous silicon and recognition moieties  
 RL: ARG (Analytical reagent use); SPM (Synthetic preparation); **ANST (Analytical study)**; PREP (Preparation); USES (Uses)

(photoluminescent indicators based on surface-modified porous semiconductors)

FN 919-31-2 CAPLUS

CN 1-Ethanamine,  $\beta$ -(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

EtO Si (CH<sub>2</sub>)<sub>3</sub> NH<sub>2</sub>

OEt

FN 2530-83-8 CAPLUS

CN Silane, trimethoxy[ $\beta$ -(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)

O

OMe

CH<sub>2</sub> C (CH<sub>2</sub>)<sub>3</sub> Si OMe

OMe

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 23 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1999:723221 CAPLUS

DOCUMENT NUMBER: 131:332971

TITLE: Chemically modified nucleic acids having enhanced

lability towards **solid supports**,  
and uses thereof in high-density **microarrays**

INVENTOR(S): Bradley, Allan; Cai, Wei Wen

PATENT ASSIGNEE(S): Baylor College of Medicine, USA

SOURCE: PCT Int. Appl., 12 pp.

VIEW: FIGURE

DOCUMENT TYPE: Patent

LANGUAGES: English

FAMILY ACT. NUM.: 1

PATENT INFO/PATENT:

PATENT NO.	TYPE	DATE	APPLICATION NO.	DATE
WO 00/07228	A1	19990111	WO 1999-010921	19990111
W. A. Bradley, W. W. Cai				
Baylor College of Medicine, USA				
131:332971				

OTHER SOURCE(S): MARPAT 131:332971

AP The invention relates to novel chem. modified nucleic acids with enhanced lability towards solid supports, such as glass. These modified nucleic acids can be readily affixed to solid supports, for instance, a glass surface, without first derivatizing the glass surface. In certain embodiments, the chem. modified nucleic acids of the invention are so modified via (1) compds. having a ring ether and an alkoxy silane group, (2) compds. having an amino group and an alkoxy silane group, (3) halogenated silanes, or (4) amine-contg. silanes reacted with brominated nucleic acids. High-d. microarrays based on these modified nucleic acids as well as methods for prep. these microarrays are also useful.

IT 919-30-2DP, 3-Aminopropyltriethoxysilane, bound to a nucleic acid  
2530-83-8DP, 3-Glycidoxypolytrimethoxysilane, bound to a nucleic acid

RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation);  
**ANST (Analytical study); BIOL (Biological study); PREP**  
(Preparation); USES (Uses)

Chem. modified nucleic acids having enhanced lability towards  
**solid supports**, and uses thereof in high d.  
**microarrays**

RN 919-30-2 CAPIUS

CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

Et<sub>2</sub>Si(CH<sub>2</sub>)<sub>3</sub>NH<sub>2</sub>

OEt

RN 2530-83-8 CAPIUS

CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)

OMe

CH<sub>2</sub>CH<sub>2</sub>Si(CH<sub>3</sub>)<sub>3</sub>OMe

OMe

71-30-7, Cytosine

RL: BPN (Analytical reagent); BPN (Biosynthetic preparation);  
BIOL (Biological study); PREP (Preparation);  
Silane, trimethoxy[3-(oxiranylmethoxy)propyl]-, having enhanced lability towards nucleic acids and enhanced lability towards **solid supports**, and uses thereof in high d. **microarrays**

RN 71-30-7 CAPIUS

CN 1H-pyrimidin-4-amine (9CI) (CA INDEX NAME)

H

1591-21-5 14867-28-8, 1H-pyrimidin-4-amine

70892-80-7, 1H-pyrimidin-4-amine 82985-34-0,

1H-pyrimidin-4-amine





TITLE: Preparation and evaluation of p-tert-butylcalix[4]arene-bonded silica stationary phases in high-performance liquid chromatography  
AUTHOR(S): Xiao, Xiang-Zhu; Feng, Yu-Qi; Da, Shi-Lu; Zhang, Yan  
CORPORATE SOURCE: Dep. Chemistry, Wuhan Univ., Wuhan, 430072, Peop. Rep. China  
SOURCE: Chromatographia (1999), 49(11/12), 645-648  
CODEN: CHRGB7; ISSN: 0009-5893  
PUBLISHER: Friedrich Vieweg & Sohn Verlagsgesellschaft mbH  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB A method is proposed for prepn. of a 4-tert-butylcalix[4]arene-bonded silica stationary phase. Chem. modified 4-tert-butylcalix[4]arene is attached to silica gel by using [ $\gamma$ -(ethylenediamino)propyl]triethoxysilane as coupling reagent. The bonded phase was characterized by  $^{29}\text{Si}$  and  $^{13}\text{C}$  cross polarization/magic angle spinning solid-state NMR. The retention behavior of polycyclic arom. hydrocarbons (PAHs), nucleosides, and nucleobases was investigated on the bonded phase in the reversed-phase mode.

IT 71-30-7, Cytosine  
RL: ANT (Analyte); ANST (Analytical study)  
(prepn. and evaluation of tert-butylcalixarene-bonded silica stationary  
phases for HPLC)

BN 71-30-7 CAPLUS

CN 2(1H)-Pyrimidinone, 4-amino- (9CI) (CA INDEX NAME)



13

IT 30858-91-4DP, [ $\gamma$ -gamma.-(Ethylenediamine)propyl]triethoxysilane,  
reaction product with silica gel and tert-butyl(chlorocarbonyl)methoxyhydroxycalixarene

RL: ARU (Analytical role, unclassified); SKN (Synthetic preparation);  
**ANST (Analytical study); PREP (Preparation)**

## (prepn. and evaluation of tert-butylcalixarene-bonded silica stationary phases for HPLC)

RM =  $\text{RM}(\text{W}^1, \text{Q} + \text{Q}^1 + \text{Q}^2)$  (RM11)

REPORTER'S STATE: Department of Microbiology, Arizona State University, Tempe, AZ, 85287-2701, USA  
SOURCE: Biophysical Journal (1999), 77(1), 568-576  
CODEN: BICJAU; ISSN: 0006-3495  
PUBLISHER: Biophysical Society  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AF A procedure for covalent binding of DNA to a functionalized mica substrate is described. The approach is based on photochem. crosslinking of DNA to immobilized trioxalen derivs. A tetrafluorophenyl (TFP) ester of tri-Me trioxalen (trioxalen) was synthesized, and the procedure to immobilize it onto a functionalized aminopropyl mica surface (AP-mica) was developed. DNA mols. were cross-linked to trioxalen moieties by UV irradn. of complexes. The steps of the sample prepn. procedure were analyzed with XPS (XPS). Results from XPS show that an AP-mica surface can be formed by vapor phase deposition of silane and that this surface can be derivatized with trioxalen. The derivatized surface is capable of binding of DNA mols. such that, after UV crosslinking, they withstand a thorough rinsing with SDS. Observations with at. force microscopy showed that derivatized surfaces remain smooth, so DNA mols. are easily visualized. Linear and circular DNA mols. were photochem. immobilized on the surface. The mols. are distributed over the surface uniformly, indicating rather even modification of AP-mica with trioxalen. Generally, the shapes of supercoiled mols. electrostatically immobilized on AP-mica and those photo-cross-linked on trioxalen-functionalized surfaces remain quite similar. This suggests that UV crosslinking does not induce formation of a noticeable no. of single-stranded breaks in DNA mols.

IT 919-30-2

RL: ARU (Analytical role, unclassified); **ANST (Analytical study)**  
mica surface coated with; imaging of DNA by at. force microscopy  
based on covalent photochem. crosslinking of DNA to trioxalen  
immobilized onto mica surface)

BN 919-30-2 CAPLUS

1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

• 144 •

$$E^+ = \mathbb{R}^3 \times \mathbb{R}^3 \times \mathbb{R}^3$$

4

44 THERE ARE 44 DIFFERENT REFERRALS TO AVALANCHE IN THIS PERIOD, AND 17 OF THEM ARE ASSOCIATED WITH THE EMA.

# ANSWER

# THE PRACTICAL ANTHROPOLOGIST

### THE INFLUENCE OF THE ENVIRONMENT

1862. — Vol. 16.

1. *Leucosia* (Leucosia) *leucosia* (L.) *leucosia* (L.) *leucosia* (L.)

## REFERENCES AND NOTES

Report of the Joint Select Committee on Small Business, 106th Congress, 2d Session

1. *What is the relationship between the two main characters?*

1. *Chlorophytum comosum* (L.) Willd. (Liliaceae)

19. *Leucosia* *leucostoma* *leucostoma* *leucostoma* *leucostoma* *leucostoma* *leucostoma*

EP 895082 A3 19990811  
 F: AT, BE, CH, DE, DK, ES, FR, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, MT, LV, FI, RO

JP 11187900 A1 19990711 F 1498-209325 19980724  
 JP 2001066303 A2 20010616 F 2000-232216 19980724

PRIORITY APPLN. INFO.: F 1497-207837 A 19970801  
 F 1497-207846 A 19971021  
 JP 1998-204923 A 19980724

OTHER SOURCE(S): MARIAT Int'l 148646

AB Provided is a method of attaching probes to a solid support in a markedly high d. and efficiency. An extremely small amt. of probe is contained within a liq., and droplets of the liq. are delivered to the solid support via an ink jet ejection method, thereby forming spots which contain the probe. Since one or more substances can bind specifically to target probes and said probes are arranged in a large no. on a solid support, the method can be used to swiftly and accurately det. a base sequence of a nucleic acid or detect a target nucleic acid in a sample.

IT 1760-24-3, KEM603 2530-83-8, KEM403

RL: RCT (Reactant); RACT (Reactant or reagent)

novel methods of attaching probes to a **solid support** and uses thermal.

RN 1760-24-3 CAPLUS

CN 1,2-Ethanediamine, N-[3-(trimethoxysilyl)propyl]- (9CI) (CA INDEX NAME)

OMe

MeO Si (CH<sub>2</sub>)<sub>3</sub> NH CH<sub>2</sub> CH<sub>2</sub> NH<sub>2</sub>

OMe

RN 2530-83-8 CAPLUS

CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)

O

Me

CH<sub>2</sub> O (CH<sub>2</sub>)<sub>3</sub> Si OMe

Me

LAU, ANTHONY J., et al. 19990811-00001

AT 3740000 NUMBER: 19990811-00001

DOCUMENT NUMBER: 19990811-00001

TITLE: A New Probing/Labeling/Immobilization Technique and Apparatus

INVENTOR(S): Alan Lau, Anthony Lau, John J. Mynihen, Kristen

PATENT ASSIGNEE(S): Applied Biosystems, Inc., USA

SOURCE: PCT Int. Appln. PCT/US97/03377

DOCUMENT TYPE: Patent

LAU, ANTHONY J. 19990811-00001

LAU, ANTHONY J. 19990811-00001

APPLIED BIOSYSTEMS, INC., 1111 KODAK AVENUE, FORT COLLINS, COLORADO 80526, USA  
 PCT/US97/03377, 1997-08-11, 1999-08-11, 19990811-00001, 19990811-00001

RU, RU, SP, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, VE, VN,  
 YE, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
 KW, GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,  
 FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,  
 CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 98-5826 A1 19990216 AU 1998-5826 19980721

AU 98-5846 B2 20010712

EP 000147 A1 20000501 EP 1997-157016 19980721

EP: AI, BE, CH, DE, DK, ES, FR, GB, IE, IT, LI, LU, NL, SE, SI, PT,  
 FR, FI

US 5571185 A 20001121 US 1998-120386 19980721

JP 0911777 T2 20010503 JP 2000-504953 19980721

PRIORITY APPLN. INFO.: US 1997-533526 P 19970722  
 WO 1998-US15246 W 19980721

AB: An array of biomols. is formed from a flat solid substrate, whereby said surface is covered with a layer of polyethylenimine (PEI) and this layer is divided among a plurality of discrete first regions abutted and surrounded by a contiguous second region. The process includes the step of depositing a biomol. into the first regions while maintaining the second region substantially free of the biomol.

IT 2530-83-8, 3-(2,3-Epoxypropoxy)propyltrimethoxysilane

RL: ARI (Analytical role, unclassified); RCT (Reactant); **ANST** (Analytical study); RACT (Reactant or reagent)

use as biifunctional coupling agent; novel polyethylenimine-based biomol. arrays

RN 2530-83-8 CAPIUS

TM Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)

OMe

CH<sub>2</sub> C(CH<sub>2</sub>)<sub>3</sub> Si CMe

OMe

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS  
 RECDP. ALL CITATIONS AVAILABLE IN THE RE FORMAT

141 ANSWER 13-0741 CAPIUS COPYRIGHT 2002 ARI

ACCESSION NUMBER: 1997-258651 CAPIUS

DOCUMENT NUMBER: 12713891

ABSTRACT: A biifunctional polyethylenimine-based biomol. array is formed on a solid substrate.

ANALYST: B. M. Pfeifer, B. D. C. Lai, R. D. L.

APPLICANT: B. M. Pfeifer, B. D. C. Lai, R. D. L., C. M. C. CHEN, R. W. L. Twite,

ANALYST: B. M. Pfeifer, B. D. C. Lai, R. D. L., C. M. C. CHEN, R. W. L. Twite,

CITATION: ANALYST; NAME: B. M. Pfeifer

PUBLISHER: ARI

DOCUMENT TYPE: CAPIUS

FORMAT: Fulltext

ABSTRACT: A biifunctional polyethylenimine-based biomol. array is formed on a solid substrate.

glass slides

RL: ARU (Analytical role, unclassified); DEV (Device component use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)

(covalent attachment of hybridizable oligonucleotides to glass supports)

RN 91x-55-2 CAPLUS

CN 1-Propanamine, 3-(triethoxysilyl)- (91x- (CA INDEX NAME))

OEt

EtO Si (CH<sub>2</sub>)<sub>3</sub> NH<sub>2</sub>

OEt

L45 ANSWER 30 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1996:657014 CAPLUS

DOCUMENT NUMBER: 126:26153

TITLE: Carbazine dyes and derivatives for pH measurement

INVENTOR(S): Smith, Roger E.

PATENT ASSIGNEE(S): Utah Medical Products, Inc., USA

SOURCE: U.S., 23 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5567624	A	19961021	US 1995-423622	19950427
CA 2219117	AA	19961031	CA 1996-2218117	19960426
WO 9634284	AI	19961031	WO 1996-US5777	19960426
	W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GE, HU, IS, JP, KE, KG, KE, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SE, SG, SI RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GR, PT, IE, IT, NL, MT, NL, PT, BE, FI, FR, GR, IE, MT, NL, PT, IE, IT, NL, MT, NL, PT			
	AT 407777	AI	19961031	AT 1996-107777
	EP 0941716	AI	19961031	EP 1996-0941716
	DE 407777	AI	19961031	DE 1996-407777
	EP 1366167	AI	19961031	EP 1996-1366167
	DE 1004167	AI	19961031	DE 1996-1004167

IP1 F1TY APPN. INFO.: US 1995-423622, 19950427, WO 1996-US5777, W 19960426

AB: A compound for detecting pH of a solution, comprising a fluorescent carbazine group covalently linked to a polymeric support, a methyl group, a pH indicator group, a nitrogen protecting group, and the like, and having the empirical formula represented with substituents I, II, III, IV, V, VI, VII, VIII, and the like.

2530-83-8

1-(3-(triethoxysilyl)propyl)-3-(2-methyl-4-phenyl-5-pyridyl)-4-phenyl-5-pyridyl-1-oxo-1,2-dihydro-1,4-dihydro-2H-1,3-dioxolane

1-(3-(triethoxysilyl)propyl)-3-(2-methyl-4-phenyl-5-pyridyl)-4-phenyl-5-pyridyl-1-oxo-1,2-dihydro-1,4-dihydro-2H-1,3-dioxolane solid

100%

RN 2530-83-8 CAPIUS  
IN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (SCI) (CA INDEX NAME)



LA ANSWER 31 OF 41 CAPIUS COPYRIGHT 2002 ACS

ADVERTISEMENT NUMBER: 1992:401921 CAPIUS

DOCUMENT NUMBER: 117:1921

TITLE: Oligonucleotide hybridizations on glass supports: a novel linker for oligonucleotide synthesis and hybridization properties of oligonucleotides synthesized in situ

AUTHOR(S): Maskos, Uwe; Southern, Edwin M.

CORPORATE SOURCE: Dep. Biochem., Univ. Oxford, Oxford, OX1 3QH, UK

PERIODICITY: Nucleic Acids Res. (1992), 20(7), 1679-84

CODEN: NARHAD; ISSN: 0305-1048

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A novel linker for the synthesis of oligonucleotides on a glass support is described. Oligonucleotides synthesized on the support remain tethered to the support after ammonia treatment and are shown to take part in sequence-specific hybridization reactions. These hybridizations were carried out with oligonucleotides synthesized on ballotini solid sphere glass beads and microscope slides. The linker has a hexaethylene glycol spacer, bound to the glass via a glycidoxypipropyl silane, terminating in a primary hydroxyl group that serves as starting point for automated or manual oligonucleotide synthesis.

LA 2530-83-8

RI: UGEG (Uses)

glass support immobilization of, reaction with diols after, for synthesis of **solid support**-bound linker for oligonucleotide synthesis

LA 2530-83-8 CAPIUS

IN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (SCI) (CA INDEX NAME)

Si

CH<sub>2</sub>—CH<sub>2</sub>—Si—OMe

OMe

LA ANSWER 31 OF 41 CAPIUS COPYRIGHT 2002 ACS

ADVERTISEMENT NUMBER: 1992:401921 CAPIUS

DOCUMENT NUMBER: 117:1921

LA ANSWER 31 OF 41 CAPIUS COPYRIGHT 2002 ACS  
ADVERTISEMENT NUMBER: 1992:401921 CAPIUS  
DOCUMENT NUMBER: 117:1921



JP 01072054	A2	19890316	JP 1988-141451	19880608
JP 01093816	B4	19950726		
AT 01-176	E	19970319	AT 1988-305217	19880608
US 5240602	A	19930831	US 1991-682393	19910402
US 5311276	B1	20010626	US 1999-261450	19990303

## AFFINITY ABNL. INFO.:

US 1987-58988	A	19870608
US 1988-187765	A	19880424
US 1990-485866	B1	19900223
US 1991-682393	A3	19910402
US 1993-70554	B1	19930601
US 1995-397414	B1	19950301
US 1996-714523	B1	19960916
US 1997-949448	B1	19971014

AB: Chromatog. materials (SBX, SBXYL, and SBXY' [S = substantially non-compressible solid support; B = binding group; X = substantially nonionic hydrophilic spacer; Y = coupling group; Y' = activated coupling group; L = affinity ligand] are provided. The solid support is silica gel or other metal oxide or ceramic. A process for chromatog. sepn. and detection of antigenic substance with the title material is also provided. The chromatog. material is substantially free of nonspecific adsorption and is stable at high pH. PEG 600-propylsilica (40  $\mu$ m) was prepd. and activated with carbonyldiimidazole. The activated silica gel was reacted 1st with hydrazine, then with periodate-oxidized ovalbumin, and packed into a HPLC column. Serum from a rabbit immunized against ovalbumin was loaded onto the column. Following removal of nonbound serum components by washing, IgG was eluted with 2% HOAc contg. 0.15M NaCl. Identity of the eluted, purified IgG was confirmed by SDS-PAGE and Western blot anal.

IT: 13883-39-1D, reaction products with silica gel

## RL: ANST (Analytical study)

(in prepn. of stationary phase for affinity chromatog., pH stability in relation to)

RN: 13883-39-1 CAPLUS

CN: Silane, (3-bromopropyl)trichloro- (6CI, 8CI, 9CI) (CA INDEX NAME)

CI:

Cl: Cl- (CH<sub>2</sub>)<sub>3</sub>Br

Cl:

Cl: 1,1,1,1-tetrakis(3,5-di- $\alpha$ -methyl-4- $\alpha$ -methyl-2-methoxyphenyl)-

1,1,1,1-tetrakis(3,5-di- $\alpha$ -methyl-4- $\alpha$ -methyl-2-methoxyphenyl)-

1,1,1,1-tetrakis(3,5-di- $\alpha$ -methyl-4- $\alpha$ -methyl-2-methoxyphenyl)-

methacrylate- $\alpha$ -methyl- $\alpha$ -methylmethacrylate copolymer and their use as solid supports for affinity chromatography in the pharmaceutical industry

Cl: 1,1,1,1-tetrakis(3,5-di- $\alpha$ -methyl-4- $\alpha$ -methyl-2-methoxyphenyl)-

1,1,1,1-t

DD 256726 AI 19880518 EP 1986-286583 19860129

OTHER SOURCE(S): MARPAT 110:208929

AB A process for the manuf. of chem. activated hydroxyethyl methacrylate-ethylene glycol dimethacrylate copolymer (I) in the form of shaped objects comprises the treatment of I with organosilanes (XKlm)nSiR4-n (X = amino, CO, CO<sub>2</sub>, isothiocyan, epoxy, diazo, NCO, NO, sulphydryl, halocarbonyl; K1 = alkyl, alkylphenyl, Ph; R = alkoxy, phenoxy, halo, m = 0-20, n = 1-3) and optionally with hetero- or homofunctional reagents. Macroporous I (Separon Hema-1000; particle size 15-25  $\mu$ m; inner surface 70  $\text{m}^2/\text{g}$ ; mol. wt. exclusion 2.5 times, 1.06  $\times 10^6$  g) was incubated with 1.0% aminopropyltriethoxysilane (NB 1114) in 1:1 EtOH-H<sub>2</sub>O at pH 2.5 for 6 h at 60.degree., washed with EtOH-H<sub>2</sub>O and 0.1M phosphate buffer at pH 6.8, and the resulting gel was incubated with 5% glutaraldehyde for 2 h at 39.degree. and subsequently washed with phosphate buffer. The activated gel was incubated with human IgG (18.0 mg IgG/mL 0.1M phosphate buffer) for 2 h at 37.degree. and overnight at 4.degree.; 36.7 mg IgG/g (>95%) were bound on activated I.

IT 919-30-2DP, reaction products with Separon HEMA and glutaraldehyde

2602-34-8DP, reaction products with Separon HEMA and (aminopropyl)triethoxysilane and glutaraldehyde

RL: PREP (Preparation)

(manuf. of, as solid support for affinity chromatog.)

RN 919-30-2 CAPIUS

CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

EtO Si (CH<sub>2</sub>)<sub>3</sub> NH<sub>2</sub>

OEt

RN 2602-34-8 CAPIUS

CN Silane, triethoxy[3-(aminopropylmethoxypropyl)- (9CI) (CA INDEX NAME)

O

OEt

CH<sub>2</sub> O (CH<sub>2</sub>)<sub>3</sub> Si OEt

P+

1.41 ANSWER TO P 41: THERM. OF THE SUPPORT AND ACT

ACTIVATING NUMBER: 110:208929

DOCUMENT NUMBER: 110:208929

TITLE: A process for the manuf. of chem. activated hydroxyethyl methacrylate-ethylene glycol dimethacrylate copolymer (I) in the form of shaped objects comprises the treatment of I with organosilanes (XKlm)nSiR4-n (X = amino, CO, CO<sub>2</sub>, isothiocyan, epoxy, diazo, NCO, NO, sulphydryl, halocarbonyl; K1 = alkyl, alkylphenyl, Ph; R = alkoxy, phenoxy, halo, m = 0-20, n = 1-3) and optionally with hetero- or homofunctional reagents. Macroporous I (Separon Hema-1000; particle size 15-25  $\mu$ m; inner surface 70  $\text{m}^2/\text{g}$ ; mol. wt. exclusion 2.5 times, 1.06  $\times 10^6$  g) was incubated with 1.0% aminopropyltriethoxysilane (NB 1114) in 1:1 EtOH-H<sub>2</sub>O at pH 2.5 for 6 h at 60.degree., washed with EtOH-H<sub>2</sub>O and 0.1M phosphate buffer at pH 6.8, and the resulting gel was incubated with 5% glutaraldehyde for 2 h at 39.degree. and subsequently washed with phosphate buffer. The activated gel was incubated with human IgG (18.0 mg IgG/mL 0.1M phosphate buffer) for 2 h at 37.degree. and overnight at 4.degree.; 36.7 mg IgG/g (>95%) were bound on activated I.

AUTHOR:

TITLE OF PAPER: A process for the manuf. of chem. activated hydroxyethyl methacrylate-ethylene glycol dimethacrylate copolymer (I) in the form of shaped objects comprises the treatment of I with organosilanes (XKlm)nSiR4-n (X = amino, CO, CO<sub>2</sub>, isothiocyan, epoxy, diazo, NCO, NO, sulphydryl, halocarbonyl; K1 = alkyl, alkylphenyl, Ph; R = alkoxy, phenoxy, halo, m = 0-20, n = 1-3) and optionally with hetero- or homofunctional reagents. Macroporous I (Separon Hema-1000; particle size 15-25  $\mu$ m; inner surface 70  $\text{m}^2/\text{g}$ ; mol. wt. exclusion 2.5 times, 1.06  $\times 10^6$  g) was incubated with 1.0% aminopropyltriethoxysilane (NB 1114) in 1:1 EtOH-H<sub>2</sub>O at pH 2.5 for 6 h at 60.degree., washed with EtOH-H<sub>2</sub>O and 0.1M phosphate buffer at pH 6.8, and the resulting gel was incubated with 5% glutaraldehyde for 2 h at 39.degree. and subsequently washed with phosphate buffer. The activated gel was incubated with human IgG (18.0 mg IgG/mL 0.1M phosphate buffer) for 2 h at 37.degree. and overnight at 4.degree.; 36.7 mg IgG/g (>95%) were bound on activated I.

NAME OF JOURNAL: JOURNAL OF POLYMER SCIENCE: PART A: POLYMERIC CHEMISTRY

PUBLISHER: JOHN WILEY & SONS, INC., 605 THIRD AVENUE, NEW YORK, NY 10016, U.S.A.

PUBLICATION DATE: JUNE 1988

VOLUME: 26, NUMBER: 6, PAGES: 110:208929

ISSUE DATE: JUNE 1988

PAPER NUMBER: 110:208929

PAPER DATE: JUNE 1988

<div data-bbox="57 2412 800 2426" data

of these plates (for sugars, guanosine, and its phosphates) is not inferior when compares with Merck com. plates NH2-F254. Ribonucleotides, deoxyribonucleotides and impurities of nucleoside N bases and their phosphates were sepd. by a mobile phase contg. AcOH and EtOH.

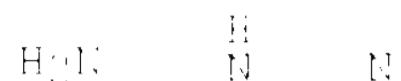
17 73-40-5, Guanine 73-40-5D, Guanine,  
nucleotides

RI: ANST (Analytical study)

sepn. of, by TLC, aminopropyltrimethoxysilane-modified silica gel for)

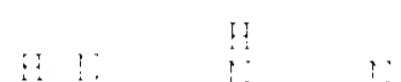
RN 73-40-5 CAPLUS

CH 6H-Purin-6-one, 2-amino-1,7-dihydro- (9CI) (CA INDEX NAME)



RN 73-40-5 CAPLUS

CH 6H-Purin-6-one, 2-amino-1,7-dihydro- (9CI) (CA INDEX NAME)



17 919-30-2, Aminopropyltriethoxysilane

RI: ANST (Analytical study)

silica gel-modified with, for nucleic acid component sepn., by TLC

RN 919-30-2 CAPLUS

CH 1-Propylamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)



17 919-30-2, Aminopropyltriethoxysilane

RI: ANST (Analytical study)

silica gel-modified with, for nucleic acid component sepn., by TLC

RN 919-30-2

CH 1-Propylamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

17 919-30-2, Aminopropyltriethoxysilane

RI: ANST (Analytical study)

silica gel-modified with, for nucleic acid component sepn., by TLC

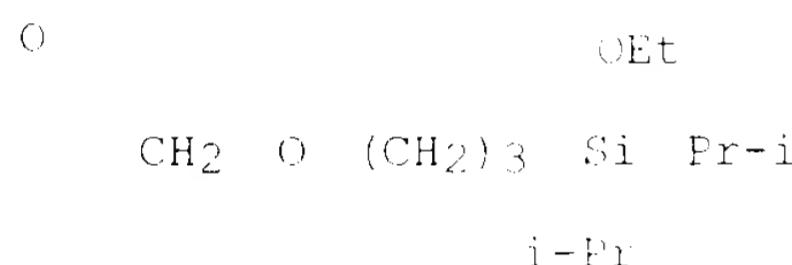
RN 919-30-2

CH 1-Propylamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

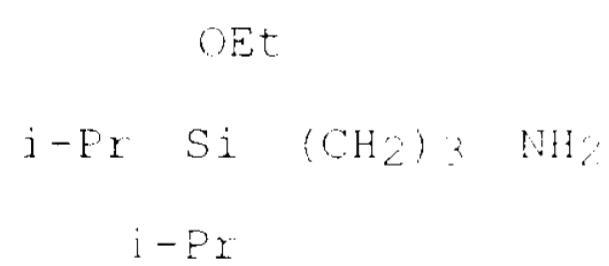
characterized by chromatog. and spectroscopic techniques. These new bonded phases are significantly more stable toward hydrolysis than previous bonded-phase silicas; retention and column efficiency are comparable. The first type uses bifunctional (or "bidentate") silanes contg. one reactive atom on each of two silicon atoms that connect through a bridging group such as -O- or -(CH<sub>2</sub>)<sub>n</sub>-. The second type uses a monofunctional silane with at least two bulky groups (e.g., isopropyl) on the silane silicon atom. These bulky groups provide steric protection to the Si-O-Si bond formed between the silane and the surface of the silica. The new bonded-phase silicas exhibit highly reproducible gradient elution high-performance seprns. of peptides and proteins with low-pH mobile phases.

IT 116698-58-9DP, reaction products with silica gels  
 117559-36-1DP, reaction products with silica gels  
 RL: **ANST (Analytical study); PREP (Preparation)**  
 (prepn. and characterization and evaluation of, as stationary phases in HPLC for anal. with low-pH mobile phases)

RN 116698-58-9 CAPIUS  
 CN Silane, ethoxybis(1-methylethyl)[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)



RN 117559-36-1 CAPIUS  
 CN 1-Propanamine, i-[ethoxybis(1-methylethyl)silyl]- (9CI) (CA INDEX NAME)



145 ANSWER TO Q1: 116698-58-9DP, 117559-36-1DP  
 ATOM NUMBER: 116698-58-9DP: 117559-36-1DP: 117559-36-1  
 ELEMENT NUMBER: 116698-58-9DP: 117559-36-1DP: 117559-36-1  
 TITLE: Novel bonded-phase materials and their use in HPLC, immunoassays, and biaffinity separations  
 on solid support  
 Inventor: Phillip T. Tan, Esther Fong, and H. H. Howard Wagner  
 INVENTOR(S): Phillip T. Tan, Esther Fong, and H. H. Howard Wagner  
 PATENT ASSIGNEE: 116698-58-9DP: 117559-36-1DP: 117559-36-1  
 SOURCE: 116698-58-9DP: 117559-36-1DP: 117559-36-1  
 ELEMENT TYPE: 116698-58-9DP: 117559-36-1DP: 117559-36-1  
 LANGUAGE: English

AT 1987-103692	E 19920219	AT 1987-103692	19870314
ES 1987-103692	T 19930201	ES 1987-103692	19870314
JP 1987-59117	A2 19871006	JP 1987-59117	19870316
JP 1987-61814	B4 19921013		
DK 5701367	A 19870919	DK 1987-1367	19870317

## PRIORITY AFFIN. INFO.:

US 1986-841107	19860318
EP 1987-103692	19870314

AB: Cr<sub>2</sub>O<sub>3</sub> particles are modified to have desirable characteristics as solid support materials for immunoassays or for bioaffinity sepn. The particles are surface reduced and coated with protective silica and silane layers. Such treatment prevents hydrolytic degrdn. of the particles, and provides a functionalized coat. Cr<sub>2</sub>O<sub>3</sub> particles were surface reduced in an aq. soln. of NaHSO<sub>3</sub>, then treated with NaAlO<sub>2</sub> and Na<sub>2</sub>SiO<sub>3</sub> soln. contg. Na borate, pH 7. The particles were coated with 3-aminopropyltriethoxysilane. The chromate leaching test of these particles gave an absorbance of 0.02 at 372 nm. The particle settling time was 8 min. In an immunoassay for the detn. of TSH, a serum sample was mixed with an enzyme-labeled anti-TSH .beta.-subunit monoclonal antibody (MAb), then mixed with a slurry of particles carrying anti-TSH .alpha.-subunit MAb. The immune complexes formed were removed magnetically. The complexes were resuspended in a substrate soln. and incubated, the absorbance of the quenched soln. was read. Human serum contg. 0, 5, 25, and 50 .mu.IU TSH/mL gave an absorbance of 0.113<sup>0</sup>, 0.182<sup>0</sup>, 0.48<sup>0</sup>, and 0.734<sup>0</sup>, resp.

TP: 919-30-2, 3-Aminopropyltriethoxysilane 5089-72-5

## RL: ANST (Analytical study)

(surface-reduced magnetic chromium dioxide particles coated with silica ansi, for immunoassays and bioaffinity sepn.)

RN: 919-30-2 CAPLUS

TM: 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

EtO<sub>2</sub>Si-(CH<sub>2</sub>)<sub>3</sub>-NH<sub>2</sub>

OEt

RN: 5089-72-5 TAIHIT

TM: 1,3-Ethanediamine, N-[3-(triethoxysilyl)propyl]- (9CI) (CA INDEX NAME)

OEt

EtO<sub>2</sub>Si-(CH<sub>2</sub>)<sub>3</sub>-NH-CH<sub>2</sub>-CH<sub>2</sub>-NH<sub>2</sub>

OEt

TP: 1-AMINOPROPYLTRIETHOXYSILANE (9CI) (CA INDEX NAME)

TM: 1-AMINOPROPYLTRIETHOXYSILANE (9CI) (CA INDEX NAME)

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DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 0432048	A1	19871111	EP 1987-510234	19870427
R: BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
WO 8706976	A1	19871111	WO 1987-EP234	19870502
W: AU, BR, DK, FI, JP, NO, US				
AU 8775839	A1	19871201	AU 1987-75838	19870502
JP 01500121	T2	19890126	JP 1987-503871	19870502
FI 8705770	A	19871230	FI 1987-5770	19871230
NO 8800010	A	19880210	NO 1988-10	19880104
DK 8800006	A	19880217	DK 1988-6	19880104
PRIORITY APPLN. INFO.:			EP 1986-510201	19860505
			WO 1987-EP234	19870502

AB A waveguide coated with single-stranded probe nucleic acids and carrying an internally reflected wave signal is contacted with an analyte soin. contg. denatured test DNA or RNA and fluorescent marker dye. Analyte nucleic acid with sequences homologous to that of the probe polynucleotide will hybridize therewith with concomitant binding of the fluorescent dye to the resultant duplex structures. Fluorescence resulting from the interaction of the wave signal at the waveguide/analyte interface with the signal generating centers created within the space probed by the evanescent component of the wave signal is detected and provides useful information on said sequences homologous to that of the probe nucleic acids. A plate waveguide with poly(dA) affixed (prepn. described for oligo dG on aminopropyl glass plate) was affixed into a flow cell and a base-line signal was obtained with buffer in the cell. Both ethidium bromide and poly-det were mixed and injected into the flow cell and the reaction was monitored. In a control, only ethidium bromide was added. The monitoring reaction was effectively immediate and only specific intercalation between double-stranded DNA was detected.

IT 919-30-2, 3-Aminopropyltriethoxysilane

RL: **ANST (Analytical study)**

(grafting of, on waveguide, for nucleic acid attachment, nucleic acid detn. in relation to)

RN 919-30-2 CAPLUS

CN 1-Propanamine,  $\beta$ -(triethoxysilyl)- (9CI) (CA INDEX NAME)

PP

EP 0432048

EP

147 ANNUAL FEE 41 1987-1991 1992-1993 1994-1995

ANNUAL NUMBER: 1987-1991 1992-1993 1994-1995

DOCUMENT NUMBER: 09/546085

DOCUMENT TYPE: Journal  
LANGUAGE: Russian

AB: Macroporous glass treated with  $\gamma$ -aminopropyltriethoxysilane and then with 1:1 copolymer of N-vinylpyrrolidone and acryloyl chloride was prepd. and used for sepn. of influenza, Sendai, etc. viruses. The sorbent possesses low absorption activity but had higher stability and better hydrodynamic properties than commonly used sorbents (Sephadex 4B, porous glass). The sorbent can be used repeatedly without regeneration (>30 times) and could be regenerated by washing with 1:1 iso-PrOH-H<sub>2</sub>O, when the chromatog. properties are totally restored. The inert sorbent was also used for the sepn. of Escherichia coli tRNA from its ribosomes.

17 919-30-2,  $\gamma$ -aminopropyltriethoxysilane

RE: ANST (Analytical study)

glass treatment with, copolymer modification after, for gel chromatog.  
(support prep.)

EN 919-30-2 CAPLUS

CH 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OE\*

EN:  $\text{CH}_3\text{Si}(\text{CH}_3)_2\text{NH}_2$

OE\*

LA: ANSWER 40 OF 41 CAPLUS COPYRIGHT 2002 ACS

ASSOCIATION NUMBER: 1938:31015 CAPLUS

DOCUMENT NUMBER: 103:31015

TITLE: Alkoxy silanes for the preparation of silica based stationary phases with bonded polar functional groups

AUTHORS: Engelhardt, Heinz; Orth, Peter

CREDIT RATE SOURCE: Angew. Phys. Chem., Univ. Saarlandes, Saarbruecken, Fed. Rep. Ger.

KEYWORD: J. Liq. Chromatogr. (1987), 10(8-9), 1927-1932

CODEN: JLCHE3; ISSN: 0144-3819

DOCUMENT TYPE: Journal

LANGUAGE: English

AB: For prepn. of polar bonded phases with alkoxysilanes, an activator and a catalyst are required to achieve surface coverages comparable to those obtained with chlorosilanes. For activation a monolayer of HCl on the silica surface is sufficient. The most suitable catalyst is a mixture of iron(III) bromide and acetylacetone. However, it is also possible with a mixture of iron(III) bromide and acetylacetone with aminopropyltriethoxysilane to obtain a stationary phase with a higher surface coverage. In this case, the surface coverage is increased by 10-15% compared to the case of iron(III) bromide and acetylacetone. The chromatographic properties of the polar bonded phases are compared.

17 35141-36-7D, insertion product with silica

RE: ANST (Analytical study), unclassified; ANST (Analytical study)

EN: Insertion product, insertion product, the mixture

CH: Insertion product

OE: Insertion product, H, H-Insertion product, Insertion product, the mixture

OMe

MeO Si (CH<sub>2</sub>)<sub>3</sub> N<sup>+</sup>M<sup>-</sup>

OMe

● Cl<sup>-</sup>IT 919-30-2D, 3-Aminopropyltriethoxysilane, reaction products with  
silicaRL: ARU (Analytical role, unclassified); **ANST (Analytical study)**  
(as stationary phases, for liq. chromatog.)

RN 919-30-2 CAPIUS

CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

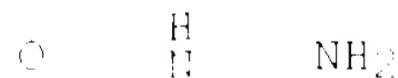
EtO Si (CH<sub>2</sub>)<sub>3</sub> NH<sub>2</sub>

OEt

IT 71-30-7, **Cytosine** 73-40-5, **Guanine**RL: ANT (Analyte); **ANST (Analytical study)**  
(sepn. of, from nucleobases, chem.-bonded silica stationary phases for  
cation-exchange liq. chromatog.)

RN 71-30-7 CAPIUS

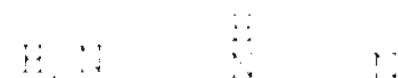
CN 2(1H)-Pyrimidinone, 4-amino- (9CI) (CA INDEX NAME)



N

RN 71-30-7 CAPIUS

CN 2(1H)-Pyrimidinone, 4-amino- (9CI) (CA INDEX NAME)



N NH

N NH

RECEIVED: F. M. Gross Chem. Lab., Duke Univ., Durham, NC, 27706,  
USA

REF: ACS Symp. Ser. (1986), 297 (Chromatogr. Sep. Chem.), 240-25

CODEN: ACSMC8; ISSN: 0095-6156

DOCUMENT TYPE: Journal

LANGUAGE: English

The use of boronic acid-substituted, amine-modified silica gel stationary phases for the HPLC sepn. of saccharides and nucleosides under neutral conditions was studied. Five stationary phases were prep'd. using Partisil 10. The capacity factors for selected saccharides and nucleosides on columns packed with these stationary phases are given. The presence of residual amine groups in the surface bound, silica-based phenylboronic acid phases lowers the apparent pKa of the acid groups. This surface buffering effect permits boronate-saccharide complexation to occur at much lower pH values than is typically the case.

102712-18-5D, reaction products with silica gel

FL: ANST (Analytical study)

as stationary phases for high-performance liq. chromatog. sepn. of nucleosides and saccharides)

RN 102712-18-5 CAPLUS

CN Boronic acid, [4-[[[5-(ethoxydimethylsilyl)propyl]amino]methyl]phenyl]- (907) (CA INDEX NAME)

CET

$$\text{CH}_2 - \text{NH} - (\text{CH}_2)_3 - \text{Si} - \text{Me}$$

Me

卷之三

(二) [1]

73-40-5

RI: ANT (Analyte); ANST (Analytical study).

high-performance liq. chromatogr. on boronate-bridged-substituted amine-modified silica gel stationary phases.

RN 73-405 CAFLUS

11 - (R)-1-(1-*R*-amino-1,7-dihydro-2*H*-1*H*-cyclohepten-2-yl)-1*H*-1*H*-cyclohepten-2-ylamine, 2-amino-1,7-dihydro- (PGL) (CA INDEX NAME)

919-30-2 18306-79-1

### ANST (Analytical study)

OEt

EtO Si (CH<sub>2</sub>)<sub>3</sub> NH<sub>2</sub>

OEt

RN 18306-79-1 (CAPLUS)

CN 1-Propanamine, 3-(ethoxydimethylsilyl)- (9CI) (CA INDEX NAME)

OEt

Me Si (CH<sub>2</sub>)<sub>3</sub> NH<sub>2</sub>

Me

FILE 'HOME' ENTERED AT 14:58:20 ON 13 AUG 2002